Dear Potential Senior Design Sponsor:

Thank you for your potential interest in supporting and supervising a group of senior engineering design students from the Texas A&M University Biomedical Engineering Department. The senior design experience is an extremely important part of our curriculum, and partnership with external clients is a key element of the program.

This letter is to inform you of some specific aspects of sponsoring a senior design team. The information below and in the attached documents may be helpful in understanding the course topics covered and expectations of students for meeting course requirements. Note that there is a WWW site which contains additional information: http://engineering.tamu.edu/biomedical/academics/seniordesign -- please check there for updates, and online project proposal submission.

BMEN TEAM OBLIGATION:

• Starting with the preliminary project description provided by the sponsor (see attached), students will work with the sponsor to initiate the project: Develop a Project Statement, including a statement of need, a clear set of requirements, and identification of key constraints for the design.

• Our students work in small teams (3-6 students) for a two-course sequence (e.g. Fall/Spring, Spring/Fall) taught by a faculty member. Students are required to complete these courses following this sequence to ensure consistency in teams assigned to projects. Teams may have one member involved in a co-op assignment during the second semester, enabling them to fulfill co-op program requirements.

• Each student team will also be mentored by an experienced engineering faculty member within the department. Students are expected to have weekly meetings with them as well as regular meetings with a representative of the sponsor.

• As a course requirement, the team must design a medical device or system based on the sponsor’s requirements, manage the project under the guidance of the faculty mentor and sponsor liaison, conduct design reviews, fabricate and test their design (when feasible), and give an oral presentation on their work to both the faculty and sponsoring liaison near the end of each semester (see Attachment).

• Teams are required to work a minimum of 6 hours per student per week.

• The team must provide all documentation and device prototypes to the sponsor.

• Any resulting intellectual property may be assigned to the sponsor, or may be subject to the intellectual property policies of the Texas A&M University System. The students on the team must work with the sponsor to execute a non-disclosure agreement, if needed. A signed statement indicating that IP issues have been addressed by the team and sponsor is required prior to formal project initiation (see Attachment).

• The faculty mentor may not provide design advice to avoid contributing intellectual property to the project. However, faculty members can potentially be available to work with the sponsor under a separate contract as is deemed mutually beneficial to both the sponsor and the faculty member.
SPONSOR’S OBLIGATION:

- The sponsor must complete the Senior Design Project Brief describing the project and contact information (see Attachment, or online version).
- These projects work best if they are not classified, highly proprietary, or part of a pipeline that requires meeting deadlines additional to course requirements.
- The sponsor must provide a person from the sponsor’s entity to serve as a liaison to the team. This individual will meet with the team on a weekly basis to review progress. In general, it is preferred that the liaison
  - have management support
  - have vested interest in the success of the project
  - be comfortable working with students in a professional relationship
- The sponsor must provide a $7500 donation to the Biomedical Engineering Industry Alliance Fund per design team (see Attachment). Alternative mechanisms for donating funds are available upon request. Projects without accompanying donations may be considered as lower priority.
- The sponsor must provide the supplies necessary to fabricate the final device, or provide the required funds to do so. These supplies must be provided directly to the student-team manager. It will be important to communicate financial constraints to the teams early, so they may consider these as criteria in making decisions.
- The sponsor, at their discretion, will provide all travel expenses for either the team to travel to the sponsor’s site or for the sponsor to travel to Texas A&M for design reviews as needed.
- Note that the current development cycle for each project is two semesters, with the following timeline:
  - Fall Semester: Project definition, background research, initial concept generation.
  - Spring Semester: Prototyping, testing, and refinement
- It is allowable and encouraged, depending on the agreement between the sponsor and team, for the students to perform some of the work at the sponsor’s facility.
- As part of the accreditation process for the Biomedical Engineering Department within the College of Engineering at Texas A&M, liaisons must complete an evaluation of their project team and return it to the faculty course supervisor. These data will be requested at the end of each semester that the design team is active (December and May).
- Students cannot be paid for any services or labor by the sponsor or any member of the sponsoring entity during the senior design project.

We sincerely appreciate your interest in and potential contributions to our senior design program. Please contact me at (979) 845-2321 or (jhanks@bme.tamu.edu) if you have any questions or further interest.

Sincerely,

John Hanks
Professor of Practice
Department of Biomedical Engineering
Texas A&M University
ATTACHMENT #1: SPONSORED SENIOR DESIGN PROJECTS

Project Brief

Texas A&M University
Department of Biomedical Engineering

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<th>Project Title:</th>
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<td>Entity:</td>
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**LIAISON INFORMATION:** The liaisons are the primary technical point of contact for the project team. These individuals are expected be available to meet or talk by phone/computer on a regular basis (i.e. weekly, short meetings) and must use email effectively to rapidly respond to critical questions from the instructor and/or design team (within 1 working day).

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**PROJECT BACKGROUND INFORMATION:** This document provides information required to understand the project scope and define the key technological expectations. The target audience for the first draft is an experienced engineering faculty member who will serve as a mentor to a team of undergraduate Biomedical Engineering students tasked with completing the project over a consecutive two-semester time frame (September-May). These project descriptions are critical to determining the suitability of the projects for the course, prioritization, and to allow assignment of suitable student teams. Suitability and priority ranking will be determined by the instructor and a screening committee comprising faculty members with design experience. Projects will also be grouped by the kinds of student expertise required. Once a common set of project expectations is established between the sponsor and the faculty member, this document may be revised as required to prepare it for the student team.

The students may be unfamiliar with your entity (company) and your products. It is possible that this project will be their first exposure to the entity, its technology and its markets. Therefore, it is important to provide some background information on your entity and a context for the project. How does this project relate to your business/endeavor? Why is it important? The addition of pamphlets or other material to this form to explain the entity mission and scope is acceptable.

**MOST IMPORTANT OBJECTIVES OF PROJECT:** Provide a list of key objectives for the project—with or without priorities. Include expectations for economic analyses and business considerations where applicable.

**DESIGN EXPECTATIONS:** Provide a list of the key design deliverables, including such things as required CAD/CAM/CAE formats and tools, documentation standards, and software environments. Identify the engineering skills most relevant to the project. What kinds of expertise do you believe would facilitate project completion?

Please Return This Form to: John Hanks
(jhanks@bme.tamu.edu)
Attachment #2: SPONSOR DONATION

Funds for the sponsor donation are to be given to the Department of Biomedical Engineering through the Texas A&M Foundation and are tax deductible.

METHODS OF GIVING:

Check:
If donating by check, it should be made payable to: The Texas A&M Foundation.

Please note on the check or an attached letter that it is for the Biomedical Engineering Industry Alliance Fund, Acct #73725.

The check should be sent to:

The Texas A&M Foundation
401 George Bush Dr
College Station, TX 77840

Credit Card:
If you prefer to make the donation by credit card, Please go to engineering.tamu.edu/biomedical and select the Biomedical Engineering Industry Alliance Fund.

Other:
If donating by check or credit card is not possible, this must be communicated at the time of project submission. If alternative forms of providing project are required, additional information will be provided upon request. Please contact John Hanks for details.
Attachment #3: Sponsor-Team Disclosure Agreement

This document confirms that the Sponsor and Design Team have discussed the relevant Intellectual Property issues regarding this project, and agree to abide by them. Texas A&M cannot be involved in these discussions, but need proof that they have been addressed AND class-related issues are suitably identified.

Intellectual property ownership

☐ Rights have been discussed and agreed upon

Disclosure

☐ Acceptable for general public disclosure

☐ Acceptable for in-class presentation only

☐ Unacceptable for disclosure outside of design team, instructor, faculty mentor, or other pre-approved individuals*

*NOTE: Due to the need for special accommodations, Selection of this option may decrease likelihood for selection of a project for use within the class. Please provide brief rationale for selection:

________________________________________________________________
________________________________________________________________
________________________________________________________________

Signatures

_____________________________  ______________________________
Sponsor Representative          Date  Design Team Member          Date

Printed Name

_____________________________  ______________________________
Design Team Member          Date  Design Team Member          Date

Position

_____________________________  ______________________________
Design Team Member          Date  Design Team Member          Date

_____________________________  ______________________________
Design Team Member          Date